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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/550,451      | 04/17/2000  | Dan Davison          | CRFY-110            | 1723             |

7590 06/20/2002  
Crutsinger & Booth  
Attn Ronald L Yin  
1601 Elm Street  
Suite 1950  
Dallas, TX 75201

EXAMINER

LIANG, GWEN

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2172

DATE MAILED: 06/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.



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Limbach & Limbach LLP  
Attn Ronald L Yin  
2001 Ferry Building  
San Francisco, CA 94111

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HCS

## Office Action Summary

Application No.

09/550,451

Applicant(s)

DAVISON, DAN

Examiner

GWEN LIANG

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The Information Disclosure Statement submitted (paper number 5) by the applicant does not contain references (no U.S. patent documents nor non-patent literature) to be considered by the examiner.

### ***Drawings***

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

### ***Specification***

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

4. This application contains an appendix consisting of a computer program listing of more than ten (10) pages. In accordance with 37 CFR 1.96(c), a computer program listing contained on more than ten (10) pages, must be submitted as a "microfiche appendix" conforming to the standards set forth in 37 CFR 1.96(c)(2) and must be appropriately referenced in the specification (see 37 CFR 1.77(a)(6)). Accordingly, applicant is required to cancel the computer program listing appearing in the current appendix to the specification, file a "microfiche appendix" in compliance with 37 CFR 1.96(c), and insert an appropriate reference to the newly added "microfiche appendix" at the beginning of the specification.

*Claim Objections*

5. Claim 5 is objected to because of the following informalities:

The description of "graph type structures" in line 20 is unclear to the examiner, nor is it clearly described in the specification.

Appropriate correction is required.

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-5, 7-15, 17-20, 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Crus et al., "Crus" (U.S. Patent No. 5,133,068).

With respect to claim 1, Crus discloses a method of creating a relational database...comprising:

forming a first database table ...; and forming a second database table ... (Abstract, "Each relationship descriptor contains a complete description of a referential constraint, either directly or by means of pointers to other objects such as record [object with associated data] and index descriptors which contain information comprised in the constraint's specification."); (Fig. 5, [separate database storage for data objects and relationship objects].); (Abstract, "The meta-data descriptions of the constraints are stored in the form of objects called relationship descriptors [relationship entries in the database table]. ... The relationship descriptors are linked into two types of chains by symbolic pointers. One type of relationship descriptor chain

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connects all relationship descriptors which have a common parent table . The other type of relationship descriptor chain connects relationship descriptors with common dependent tables [a relationship between plurality of objects].”)

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Crus discloses a method wherein each of said plurality of relationships is defined between a pair of said objects (col. 1 lines 27-32, “Referential integrity ensures the consistency of data values between related columns of two different tables [relationship between a pair of objects] (or of the same table ) by enforcing required relationships between tables' columns. These required relationships are known as "referential constraints”).

Claim 3 is rejected for the reasons set forth hereinabove for claim 2 and furthermore Crus discloses a method wherein said relationship is between a parent and a child (col. 1 lines 32-35, “A row in a "dependent table" [child] possesses referential integrity with respect to a constraint if the value of its "foreign key" matches the value of a "primary key" in some row of a "parent table" [parent] ...”).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Crus discloses a method wherein said plurality of relationships include single parent and multiple parent hierarchies (Fig. 1, [Single parent - Employee to Project; Multiple parents - Department and Employee to Project]); (Fig. 2, [multiple parents - Project is the child of two parents: Employee and Project.]).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Crus discloses a method wherein said plurality of relationships include tree and graph type structures (col. 20 lines 43-47, “... an interpreter produces the internal names of the tables involved in

the relationship as well as a description of the foreign key and the rules corresponding to the constraint's meta-data, as that meta-data is represented by the parse tree [tree type structures].”).

Claim 7 is rejected for the reasons set forth hereinabove for claim 5 and furthermore Crus discloses a method wherein each entry in said second database table defines a relationship between a pair of said objects (col. 1 lines 27-32, “Referential integrity ensures the consistency of data values between related columns of two different tables [relationship between a pair of objects] (or of the same table ) by enforcing required relationships between tables' columns. These required relationships are known as "referential constraints"”).

Claim 8 is rejected for the reasons set forth hereinabove for claim 7 and furthermore Crus discloses a method wherein said relationship is between a parent and a child (col. 1 lines 32-35, “A row in a "dependent table" [child] possesses referential integrity with respect to a constraint if the value of its "foreign key" matches the value of a "primary key" in some row of a "parent table" [parent] ...”).

Claim 9 is rejected for the reasons set forth hereinabove for claim 8 and furthermore Crus discloses a method wherein each entry in said second database table further defines a direct or indirect parent-child relationship (Fig. 1, [Employee is the direct parent of its child Project. Department is the indirect parent of its child Project.]).

Claim 10 is rejected for the reasons set forth hereinabove for claim 8 and furthermore Crus discloses a method wherein each entry in said second database table further comprises a definition of a database structure to which said relationship is a part thereof (Abstract, “An implementation of referential integrity in which descriptions of referential constraints are

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compiled into meta-data [meta-data would document ... data structures (length, fields, columns, etc) ] descriptions of the constraint rules and specifications. The meta-data descriptions of the constraints are stored in the form of objects called relationship descriptors.”).

Claims 11-15, 17-20 are similarly rejected on grounds corresponding to the reasons given above for claims 1-5, 7-10.

Claim 22 is similarly rejected on grounds corresponding to the reasons given above for claim 1.

8. Claim 21 is rejected under 35 U.S.C. 102(b) as being anticipated by Farley et al., “Farley” (U.S. Patent No. 5,257,185). Farley discloses a method of creating a relational database...comprising:

forming a table of members ...); and forming a table of reporting relationships ...; and forming a table having a set of hierarchies ... (Abstract, “The knowledge is organized by a hierarchy of topic nodes, with each node having an associated plurality of cross referenceable information units representing a variety of types, or categories, of information.”); (col. 6 lines 29-38, “The means for storing a data base contains relational data base tables each having a plurality of rows for receiving and storing data .... These data include, a plurality of nodes [members] each corresponding to one position in a hierarchy of subject, topics and subtopics having parent/child and sibling relationships [a table of reporting relationships], and a plurality of information units, each information unit being stored in one of the rows and having a defined relationship with at least one node [hierarchy corresponding to a reporting relationship in the table of reporting relationships].”.



*Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crus et al., "Crus" (U.S. Patent No. 5,133,068) and further in view of Hall et al., "Hall" (U.S. Patent No. 5,675,785).

Claim 6 is rejected for the reasons set forth hereinabove for claim 1. However Crus does not disclose a method comprising forming a third database table, said third database table having a plurality of entries, each entry being a summary of said data from a plurality of entries from said first database table.

Hall discloses a method comprising forming a third database table, said third database table having a plurality of entries, each entry being a summary of said data from a plurality of entries from said first database table (col. 3 lines 54-5, "The database warehouse includes a database having data arranged in data tables [first database table]."); (col. 2 lines 14-17, "A "group by" clause combines records with identical values in the specified field list into a single record [a summary record in a summary table]. A summary record is created for each group of combined records."); (col. 4 lines 20-22, "At higher summary levels information is aggregated into fewer records. Lower summary levels contain records which are more detailed.").

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a method of forming a summary table as disclosed by Hall in the method of

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creating a relational database as disclosed by Crus to facilitate the implementation of a decision support system since data summarization results in summarized data records based on grouped columns (col. 3 lines 1-4).

Claim 16 is similarly rejected on grounds corresponding to the reasons given above for claim 6.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Althoff et al., U.S. Patent 6,374,252: An invention that allows a user to create, edit and manipulate a user's object database

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### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM VU can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.  
May 20, 2002

  
SHAHID AL ALAM  
PATENT EXAMINER